# Table of contents

1 **General** .......................................................................................................................... 4  
   1.1 Copyright © VIPA GmbH ................................................................................. 4  
   1.2 About this manual............................................................................................. 5  
   1.3 Safety information............................................................................................. 6  

2 **Product Summary** ................................................................................................... 7  
   2.1 Introduction....................................................................................................... 7  
   2.2 Versions............................................................................................................ 7  
   2.3 Order numbers................................................................................................. 7  
   2.4 Properties......................................................................................................... 8  
   2.5 Typical applications.......................................................................................... 8  

3 **Safety, Environmental and Regulatory Information** ................................................. 9  
   3.1 Scope............................................................................................................... 9  
   3.2 Power supply.................................................................................................... 9  
   3.3 Applicable Directives, Standards and Compliance ........................................... 9  
   3.4 Field implementation and environmental conditions ....................................... 10  
   3.5 Battery............................................................................................................ 13  

4 **Hardware Description** .......................................................................................... 14  
   4.1 Dimensions..................................................................................................... 14  
   4.2 Structure......................................................................................................... 15  
   4.3 Radio communication modems...................................................................... 19  
   4.4 LAN Switch Specifications.............................................................................. 21  

5 **IP Address and Access to the Web Configuration** .................................................. 22  
   5.1 Factory Default IP settings............................................................................. 22  
   5.2 Powering ON.................................................................................................. 22  
   5.3 Setting the TM-C LAN IP Address.................................................................. 22  
   5.4 TM-C Web Interface....................................................................................... 24  

6 **Troubleshooting** ....................................................................................................... 26  
   6.1 Normal Boot Process...................................................................................... 26  
   6.2 Resetting the TM-C........................................................................................ 26  
   6.3 First Level Reset (user reset)......................................................................... 26  
   6.4 Second Level Reset (factory reset)................................................................. 26  
   6.5 Reset Impact Matrix....................................................................................... 27
1 General

1.1 Copyright © VIPA GmbH

All Rights Reserved

This document contains proprietary information of VIPA and is not to be disclosed or used except in accordance with applicable agreements.

This material is protected by the copyright laws. It may not be reproduced, distributed, or altered in any fashion by any entity (either internal or external to VIPA), except in accordance with applicable agreements, contracts or licensing, without the express written consent of VIPA and the business management owner of the material.

For permission to reproduce or distribute, please contact: VIPA, Gesellschaft für Visualisierung und Prozessautomatisierung mbH Ohmstraße 4, D-91074 Herzogenaurach, Germany

Tel.: +49 9132 744 -0

Fax.: +49 9132 744-1864

EMail: info@vipa.de

http://www.vipa.com

Every effort has been made to ensure that the information contained in this document was complete and accurate at the time of publishing. Nevertheless, the authors retain the right to modify the information.

This customer document describes all the hardware units and functions known at the present time. Descriptions may be included for units which are not present at the customer site. The exact scope of delivery is described in the respective purchase contract.

CE Conformity Declaration

Hereby, VIPA GmbH declares that the products and systems are in compliance with the essential requirements and other relevant provisions. Conformity is indicated by the CE marking affixed to the product.

Conformity Information

For more information regarding CE marking and Declaration of Conformity (DoC), please contact your local VIPA customer service organization.

Trademarks

VIPA, SLIO, System 100V, System 200V, System 300V, System 300S, System 400V, System 500S and Commander Compact are registered trademarks of VIPA Gesellschaft für Visualisierung und Prozessautomatisierung mbH.

SPEED7 is a registered trademark of profichip GmbH.

SIMATIC, STEP, SINEC, TIA Portal, S7-300 and S7-400 are registered trademarks of Siemens AG.

Microsoft and Windows are registered trademarks of Microsoft Inc., USA.

Portable Document Format (PDF) and Postscript are registered trademarks of Adobe Systems, Inc.

All other trademarks, logos and service or product marks specified herein are owned by their respective companies.

Information product support

Contact your local VIPA Customer Service Organization representative if you wish to report errors or questions regarding the contents of this document. If you are unable to locate a customer service centre, contact VIPA as follows:
1.2 About this manual

Objective and contents
This manual describes the Teleservice module 900-2C5x0 from VIPA. It contains a description of the structure, project engineering and deployment.

<table>
<thead>
<tr>
<th>Product</th>
<th>Order number</th>
<th>as of state:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TM-C Router</td>
<td>900-2C5x0</td>
<td>TM-FW</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9.0</td>
</tr>
</tbody>
</table>

Target audience
The manual is targeted at users who have a background in automation technology.

Structure of the manual
The manual consists of chapters. Every chapter provides a self-contained description of a specific topic.

Guide to the document
The following guides are available in the manual:
- An overall table of contents at the beginning of the manual
- References with page numbers

Availability
The manual is available in:
- printed form, on paper
- in electronic form as PDF-file (Adobe Acrobat Reader)

Icons Headings
Important passages in the text are highlighted by following icons and headings:

DANGER!
Immediate or likely danger. Personal injury is possible.

CAUTION!
Damages to property is likely if these warnings are not heeded.
1.3 Safety information

Applications conforming with specifications

- communication and process control
- general control and automation tasks
- industrial applications
- operation within the environmental conditions specified in the technical data
- installation into a cubicle

**DANGER!**
This device is not certified for applications in
- in explosive environments (EX-zone)

Documentation

- project design department
- installation department
- commissioning
- operation

**CAUTION!**
The following conditions must be met before using or commissioning the components described in this manual:
- Hardware modifications to the process control system should only be carried out when the system has been disconnected from power!
- Installation and hardware modifications only by properly trained personnel.
- The national rules and regulations of the respective country must be satisfied (installation, safety, EMC ...)

Disposal

National rules and regulations apply to the disposal of the unit!
2 Product Summary

2.1 Introduction

The present Manual describes the hardware of the VIPA TM-C modules. The VIPA TM-C modules are 3 industrial routers. The TM-C modules are fully compatible with the Talk2M cloud connectivity services (www.talk2M.com).

2.2 Versions

The VIPA TM-C is available in 3 different versions depending on their communication interface:

2.3 Order numbers

<table>
<thead>
<tr>
<th>Order Number</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>900-2C510</td>
<td>TM-C</td>
<td>VPN Router WAN/LAN</td>
</tr>
<tr>
<td>900-2C520</td>
<td>TM-C</td>
<td>VPN Router WIFI/WAN/LAN (Antenna included in delivery)</td>
</tr>
<tr>
<td>900-2C580</td>
<td>TM-C</td>
<td>VPN Router 3G+/WAN/LAN (Antenna 900-0AB51 optional)</td>
</tr>
<tr>
<td>900-0AB51</td>
<td>TM-Antenna</td>
<td>GSM/GPRS/UMTS</td>
</tr>
</tbody>
</table>
2.4 Properties

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>Industrial design (24 VDC power supply, DIN Rail mounting, extended temperature)</td>
</tr>
<tr>
<td>Processor</td>
<td>ARM9</td>
</tr>
<tr>
<td>Clock</td>
<td>Backed up real time clock (RTC)</td>
</tr>
<tr>
<td></td>
<td>Backup battery lifetime has 10 years expectancy</td>
</tr>
<tr>
<td>Ethernet Interface</td>
<td>LAN Ethernet port 10/100 Mbps</td>
</tr>
<tr>
<td>Digital Input</td>
<td>2</td>
</tr>
<tr>
<td>Digital Output</td>
<td>1</td>
</tr>
<tr>
<td>Mounting</td>
<td>Latch for DIN rail EN50022-compliant</td>
</tr>
</tbody>
</table>

2.5 Typical applications

- Remote Access of Ethernet devices using Talk2M connection
- Industrial VPN router
3 Safety, Environmental and Regulatory Information

3.1 Scope

The present heading addresses Safety, Environmental & Regulatory Information for the VIPA TM-C modules.

3.2 Power supply

The external power supply is a third party device that is not part of this certification. The device shall be supplied by a LPS power supply certified according to IEC/UL60950-1 or Class 2 per NEC. ❘ 'Specification of the External Power Supply' on page 19

3.3 Applicable Directives, Standards and Compliance

The product described in the present manual complies with the CE, R&TTE directives and the FCC regulations related to the wireless modems. The product described in the present Installation Guide belongs to class A Information Technology Equipment (ITE). In a domestic environment this product may cause radio interference in which case the user may be required to take appropriate measures.

Applicable European Directives

The product described in the present manual is in conformity with the following EC directives:

- RoHS Directive 2011/65/EU
- EMC Directive 2004/108/EC
- R&TTE Directive 1999/5/EC (for versions including RF modems) The product conforms to the corresponding R&TTE articles: RF spectrum efficiency (Art 3.2); EMC (Art. 3.1b); Safety (Art. 3.1a)
- REACH Directive 2006/121/EC
- For TM-C 3G+ only: to comply with R&TTE directive
  - Antenna must be mounted on a grounded plate
  - RFI suppressors must be mounted on the power supply cable in the following order, starting at 3cm of the connector and going to the power supply:
    - Würth Elektronik 742-717-33
    - Würth Elektronik 742-716-22
    - Würth Elektronik 742-711-11

Applicable Safety Standards

The product described in the present manual is in conformity with the following safety standards:

- IEC/EN 60950-1
- UL 60950-1
- CSA-C22.2 No 60950-1-07

FCC Compliance

The product described in the present manual complies with Part 15 of the FCC Rules. Operating is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.
Certifications
The product described in the present manual has been certified by authorized bodies:

- UL Certificate Of Compliance (CoC) for Ordinary Locations # E350576 for a TMRA of 60°C
- CB certificate # DK-42240-UL

These certificates can be downloaded as PDF files on:

3.4 Field implementation and environmental conditions

Protection grade
The VIPA TM-C has an IP20 protection grade. Therefore, the VIPA TM-C is NOT suited for outdoor mounting. It has to be integrated in an electrical cabinet, protected from excessive heat, humidity and dust. Do not push any sharp object into the air vents or openings of the equipment.

Mounting
The normal mounting position of the VIPA TM-C is wall mounted on a horizontal Omega type DIN-rail (EN 50022).

Mounting on DIN-rail
1. Pull the slide lock (located at the bottom of the unit's back-side) downwards and present the unit in front of the DIN rail.
2. Tilt the TM-C upwards in order to hang it on the upper edge of the DIN rail by its hook.
3. Gently tilt the unit downwards until it finds its original position.
4. Pull the slide lock upwards to fix and lock the unit on the DIN rail.

Removing from DIN-rail
1. Release the unit by pulling the slide lock downwards while gently tilting the unit upwards.
2. Free the unit by unhooking it from the upper rail edge.

The product is intended to be mounted vertically, label on the right side.
1 SIM card slot
2 DIN rail mounting bracket
3 Screw holes intended to receive M4 screws with an 8mm diameter head

To ensure a proper ventilation of the equipment, a free gap of at least 2 cm must be respected in front of all upper & lower ventilation openings of the unit. A free gap of at least 1 cm must be respected on each side of the unit.
CAUTION!
In any other mounting position than the one explained here above, the specified temperature has to be derated to -25°C to +40°C.

Cabling

Shielded cables must be used for Ethernet and USB connectivity to comply with the EMC requirements. USB cable must be
- shorter than 3m
- USB 2.0 type
- Maximum current per contact: 0.5A (or better)
- "A" plug connected to the TM-C
The equipment will operate properly within the following environmental limits if it has been correctly mounted according to the above mentioned recommendations:

<table>
<thead>
<tr>
<th>Environmental conditions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Operating temperature</strong></td>
<td>-25°C to +70°C</td>
</tr>
<tr>
<td><strong>Relative Humidity</strong></td>
<td>10 to 95% non-condensing</td>
</tr>
<tr>
<td><strong>Operating altitude</strong></td>
<td>Up to maximum 2000m</td>
</tr>
<tr>
<td><strong>Storage temperature</strong></td>
<td>-40 to +70 °C</td>
</tr>
<tr>
<td><strong>Storage Humidity</strong></td>
<td>10 to 95% non-condensing</td>
</tr>
<tr>
<td><strong>Storage altitude</strong></td>
<td>Up to maximum 3000m</td>
</tr>
</tbody>
</table>

Earthing

Earthing the TM-C is necessary to eliminate unwanted transients (lightning protection) and to conform to the EMC requirements. Therefore, a functional earth (FE) terminal is available on the main connector of ‘Specification of the External Power Supply’ on page 19. Connect this terminal directly to allow impedance ground. Shielded cables have to be used for Ethernet and USB to comply with the EMC requirements.

3.5 Battery

The TM-C contains a CR2032 battery. This battery is used to maintain the real time clock upto-date even when the unit is not powered.

**CAUTION!**

Risk of explosion if battery is replaced by an incorrect type.

The battery is not attended to be replaced on consumer's side. The product shall be returned to manufacture for replacement.
4 Hardware Description
4.1 Dimensions

![Dimensions Diagram]
4.2 Structure

Front

1. Reset button
2. Status LEDs panel
3. LAN/WAN Ethernet ports and corresponding status LEDs (Red: WAN / Green: LAN)
4. USB slot
5. SD card slot

Upper side

1. Main connector including power input terminal, 1 DO and 2 DI

Main Connector

As shown in the picture, the female mating connector is labelled with the appropriate symbols.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector type</td>
<td>MINICONNEC MC model</td>
</tr>
<tr>
<td></td>
<td>Type MC 1.5/9-ST-3.5</td>
</tr>
<tr>
<td></td>
<td>Pitch = 3.50 mm</td>
</tr>
<tr>
<td></td>
<td>9-pin female</td>
</tr>
</tbody>
</table>
## PIN, ICON, ID, Description

<table>
<thead>
<tr>
<th>PIN</th>
<th>ICON</th>
<th>ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>O-</td>
<td>DO_COM</td>
<td>Output signal (0V ground) connected to the emitter of the MOSFET transistor</td>
</tr>
<tr>
<td>2</td>
<td>O</td>
<td>DO</td>
<td>Output signal connected to the drain of the MOSFET transistor</td>
</tr>
<tr>
<td>3</td>
<td>O+</td>
<td>DO_VDC</td>
<td>Common of the external predrive power supply (12 - 24 VDC)</td>
</tr>
<tr>
<td>4</td>
<td>i-</td>
<td>DI_COM</td>
<td>Ground of the input (isolated)</td>
</tr>
<tr>
<td>5</td>
<td>i₁</td>
<td>DI1</td>
<td>Input signal 1</td>
</tr>
<tr>
<td>6</td>
<td>i₂</td>
<td>DI2</td>
<td>Input signal 2</td>
</tr>
<tr>
<td>7</td>
<td>+</td>
<td>Power in VDD +</td>
<td>12 - 24 VDC</td>
</tr>
<tr>
<td>8</td>
<td>-</td>
<td>Power in GND -</td>
<td>0V</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Functional Earth</td>
<td></td>
</tr>
</tbody>
</table>

## Digital Output and Digital Inputs

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of digital output *</td>
<td>Open drain MOSFET</td>
</tr>
<tr>
<td>Max. current (ext. source)</td>
<td>200 mA</td>
</tr>
<tr>
<td>Isolation (both DI &amp; DO)</td>
<td>1.5 kV</td>
</tr>
<tr>
<td>DI voltage range</td>
<td>0 to 24 VDC</td>
</tr>
<tr>
<td>DI protection</td>
<td>33 VDC Max</td>
</tr>
<tr>
<td>DI OFF state input voltage range</td>
<td>0 to 5 VDC</td>
</tr>
<tr>
<td>DI ON state input voltage range</td>
<td>10 to 30 VDC</td>
</tr>
<tr>
<td>DI ON state current range</td>
<td>From 3.8 mA at 12 VDC to 8.2 mA at 24 VDC</td>
</tr>
</tbody>
</table>

*) When the TM-C reboots, a short phase of ON state is part of the starting process.

The digital output is activated by an open drain MOSFET transistor driven by an optocoupler. The maximum current flow inside this transistor has a value above the one specified in the TM, in order to cope with the switching power losses. The transistor used is in an open drain type with predrive. This means the relay power supply has to be supplied from an external source to the predrive electronics. The diagram below shows the external wiring needed for proper operation of the digital output. A relay has been chosen for this sample application but any load within the specifications can be used instead.

*This is a sink only output to ground (the transistor acts like a switch ground).*
Possible features

Digital Output and Inputs can be used on the TM-C, some features can be externalized by wiring the main connector.

<table>
<thead>
<tr>
<th>LED</th>
<th>Connector</th>
<th>Description</th>
</tr>
</thead>
</table>
| KEY  | DI1       | On a key switch to authorize or prevent the Internet connection.  
On a key switch to authorize or prevent the VPN connection. |
| DI2  | DI2       | Not supported. |
| T2M  | DO        | Can be wired to an external device to propagate the Talk2M status.  
If the VPN connection is active, the DO is set to 1. |

Digital Input (DI1) can be used as a connectivity condition.  
The configuration of this condition has to be done during the Internet Wizard where you define if the digital input is used or not and for which purpose.
### Status LED panel (All version)

<table>
<thead>
<tr>
<th>Label</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI1</td>
<td>Button BI1 input  &lt;br&gt;Green ON = Reset being pressed</td>
</tr>
<tr>
<td>PWR</td>
<td>Power  &lt;br&gt;Green ON = Power is present</td>
</tr>
<tr>
<td>USR</td>
<td>User  &lt;br&gt;Green ON+OFF slowly = Unit is OK red pattern = special attention required</td>
</tr>
<tr>
<td>KEY</td>
<td>Digital IN 1 - Green = ON: Signal on input 1 detected</td>
</tr>
<tr>
<td>DI2</td>
<td>Digital IN 2 - Green = ON: Signal on input 2 detected</td>
</tr>
<tr>
<td>T2M</td>
<td>Talk2M - Green ON = Talk2M VPN connection established</td>
</tr>
<tr>
<td>@</td>
<td>Internet  &lt;br&gt;Green ON = Internet is configured on the VIPA TM-C</td>
</tr>
</tbody>
</table>

### Status LED panel (TM-C - WiFi)

1. SMA male connector for WiFi antenna
2. Modem status Green ON = WiFi connected
3. Reception signal level Red ON = poor signal
4. Reception signal level Red ON = Signal is OK
5. Reception signal level Red ON = good signal
4.3 Radio communication modems

CAUTION!
This device is intended to be used in fixed or mobile applications only (not for portable applications). The antenna used for this transmitter has to be installed in a space providing a safe distance of at least 20 cm without encountering any person and must not be co-located or operating in conjunction with any other antenna or transmitter.

TM-C with internal WiFi modem

<table>
<thead>
<tr>
<th>Item</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protocols and Frequencies</td>
<td>IEEE802.11b/g/n, 2.4GHz - Channels: 1 to 11(inclusive)</td>
</tr>
<tr>
<td>Antenna Connector</td>
<td>Type RP-SMA</td>
</tr>
<tr>
<td>Antenna (included in the delivery)</td>
<td>Characteristic</td>
</tr>
<tr>
<td></td>
<td>Impedance</td>
</tr>
<tr>
<td></td>
<td>Input Power</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Hardware Description

#### Radio communication modems

<table>
<thead>
<tr>
<th>Item</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Tightening Torque</strong></td>
<td>0.5 Nm.</td>
</tr>
<tr>
<td></td>
<td>In the absence of a torque wrench, a soft manual tightening is sufficient.</td>
</tr>
</tbody>
</table>

Device conformity has been tested with the reference antenna: Pulse W1030.

- The product complies with the R&TTE directive, the FCC, the IC and Japan regulations related to the WiFi communications.
- Absolute maximum antenna gain as per FCC’s rules and regulations, 47CFR: Part 15C: 2.14dBi
- Modifications cannot be made by the user if it influences the normal behaviour of the device.
- The user shall be informed about modem identification numbers according to their national authorities. This product contains part identified as follows by national authorities:
  - FCC ID: QOQWF111
  - IC ID: 5123A-BGTWF111
  - RRA ID: KCC-CRM-BGT-WF111
  - GITEKI (MIC) ID: 209-J00061

#### TM-C with internal 3G+ modem

<table>
<thead>
<tr>
<th>Item</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Protocols and Frequencies</strong></td>
<td>GSM/GPRS/EDGE - 850, 900, 1800, 1900 MHz</td>
</tr>
<tr>
<td></td>
<td>UMTS/HSUPA - 800/850, 900, AWS 1700, 1900, 2100 MHz</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>5 bands GPRS/EDGE Class 33</td>
</tr>
<tr>
<td><strong>Antenna Connector</strong></td>
<td>Type SMA</td>
</tr>
<tr>
<td><strong>Antenna</strong></td>
<td>GSM/GPRS/UMTS antenna is available from VIPA with 900-0AB51 as reference</td>
</tr>
</tbody>
</table>

- The product complies with the R&TE directive, the FCC, the IC and Japan regulations related to the GSM modems.
- Absolute maximum antenna gain as per FCC’s rules and regulations, 47 CFR:
  - Part 22H: 5.22dBi
  - Part 27: 3.31dBi
  - Part 24E: 6.45dBi
- Modifications cannot be made by the user if it influences the normal behaviour of the device.
- The user shall be informed about modem identification numbers according to their national authorities: This product contains part identified as follows by national authorities:
  - FFC ID: RI7HE910
  - IC ID: 5131A-HE910
  - GITEKI (MIC) ID: 005-100269
  - JATE ID: AD12-0318001
4.4 LAN Switch Specifications

**Boot process**

During the (re)boot process, the TM prevents the switch feature from working. This means that it might require little time starting from the power on (or the reboot request) to get the LAN switch to be fully operational. When an TM router is configured to operate a certain way, it is part of the strategy, if no other method worked, to reboot itself. This is the ultimate TM strategy to try restoring the requested communication channels and be consistent with requested configuration.
5 IP Address and Access to the Web Configuration

5.1 Factory Default IP settings

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Value(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAN IP Address</td>
<td>10.0.0.53</td>
</tr>
<tr>
<td>LAN Subnet Mask</td>
<td>255.255.255.0</td>
</tr>
</tbody>
</table>

5.2 Powering ON

Power on the unit and wait approximately 25 sec. until the boot process is finished.

⇒ After a successful boot process the "USR" LED is flashing green ON and OFF slowly. If the "USR" LED is flashing red according to a given pattern, it indicates that the boot process was interrupted due to a problem.

Most frequent problems include:

■ a duplicate IP address was detected on the LAN Network "USR" LED flashing pattern is red 1x short, 1x long

5.3 Setting the TM-C LAN IP Address

You can easily establish your first communication with your TM-C by using our companion tool eBuddy which can be downloaded from www.vipa.com under 'Service-Support ➔ Downloads ➔ Software'.

Connect one of the LAN-ports (by default, port No. 1 is always a LAN port) of your TM-C with your PC point-to-point or through a network where there is no risk that the TM's default IP-address (10.0.0.53) would conflict with another connected device.

Start the eBuddy application. This one scans the network through the Ethernet adapter and retrieves the connected TM, including its IP address, Subnet Mask and serial number. The application also allows you to change the default IP address without being necessarily in the same network range.
1. Start the **eBuddy** utility on your PC in the home page. Select "Set IP Address".

2. Fill in the Serial Number of your TM-C or click on [Browse...] and select it. The Serial Number of the TM-C is on its label. Click [Next].
3. Enter a new LAN IP address and Subnet Mask. Click [Next].

4. Wait until the address is updated and the device has rebooted. Click [Finish].

5.4 TM-C Web Interface

To access the web pages of your TM-C proceed as follows:

1. Connect the PC to one of the LAN port of the TM-C.

2. Open your Internet browser and access the TM-C internal Web page by entering the LAN IP address in the URL field (the default address is http://10.0.0.53).
   ⇒ You arrive on a loading page.

3. If this is the first boot of the TM-C (or after a level 2 reset), you will be asked for a default language.
4. Before configuring your TM-C, an authentication is required. For a first boot, the default login and password are both “adm”.

**CAUTION!**
For security reasons, changing the default password “adm” is absolutely required.

⇒ You will be automatically redirected to the Quick Launch Wizard page:

5. You can follow the Quick Start Guide as an aid to configure your TM-C. Can be downloaded on www.vipa.com under ‘Service-Support ➔ How-to-do ➔ Teleservice’.

6. To reconfigure your TM-C, you can easily rerun the wizard by clicking on the “Settings” button on top of the page.
6 Troubleshooting

6.1 Normal Boot Process

The normal boot process of the TM-C takes approximately 25 seconds to complete. During this process, all LEDs are shortly ON, except "BI1" as long as the RESET button is not pressed. During this boot sequence, the "USR" LED is orange. As soon as the boot process is finished and the unit is ready to be used, the "USR" LED flashes green slowly.

6.2 Resetting the TM-C

The reset button "B1" is located on the front of the TM-C unit. The reset function of this button is active only if pressed while powering on. The TM-C features two type of reset levels. A table follows with the impacted configuration zones per reset level.

6.3 First Level Reset (user reset)

The first level reset consists in formatting only the "user files" part of the non volatile memory. This type of reset does not modify the communication parameters of the TM-C.

How do I generate a first level reset?

1. Power the unit OFF and ON again
2. Immediately press and maintain the reset button. The LED labeled "BI1" turns ON.
3. Wait approximately 30 seconds until the "USR" LED flashes red 1x per second.
4. Immediately release the button (if you don't, you would reach the second level reset phase). The LED labeled "BI1" turns OFF.
5. Wait approximately 30 secs until the reset procedure is completed.
6. The TM-C restarts automatically and the unit is ready to be used, the "USR" LED flashes green slowly.

6.4 Second Level Reset (factory reset)

This second level reset formats the entire non volatile memory and returns the TM-C to its factory settings. This operation consists in 3 steps:

1. Formats the entire non volatile memory, including all COM parameters and IP addresses
2. Full hardware auto-test with result shown by the "USR" LED
3. Return to ex-factory configuration (default config)

How do I generate a second level reset?

1. Power the unit OFF and ON again
2. Immediately press and maintain the reset button. The LED labeled "BI1" turns ON.
3. Wait approximately 35 seconds until the "USR" LED remains RED steady.
4. When this state is reached, release the button. The LED labeled "BI1" turns OFF.
5. It takes no longer than 2 seconds to complete.
6. Check if the auto test is successful, the "USR" LED flashes red with a pattern of 200ms ON and 1.5 sec OFF*. The TM-C does NOT restart in normal mode by itself and remains running in this diagnostic mode.
7. You have to power the TM-C OFF and ON again to reboot the unit in normal mode. As described before, the TM returns to its default COM parameters and factory IP addresses (like LAN 10.0.0.53) after this level 2 reset is performed.

*) Any other pattern reflects a problem. The pattern will start with 200ms ON (opening of the pattern) followed by OFF and a certain number of times of a 1 sec ON allowing to identify the nature of the detected problem. If you were to be confronted with an error pattern on the "USR" LED, please write down the pattern you observed and contact your distributor.

### 6.5 Reset Impact Matrix

<table>
<thead>
<tr>
<th>Impact Reset Level 1 (user reset)</th>
<th>Erased or Reset</th>
<th>Preserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>adm password</td>
<td>LAN IP address + mask</td>
<td></td>
</tr>
<tr>
<td>Internet access</td>
<td>Language settings</td>
<td></td>
</tr>
<tr>
<td>Modem/ WiFi settings</td>
<td>TM-C Identification</td>
<td></td>
</tr>
<tr>
<td>Talk2M config</td>
<td>User Web site</td>
<td></td>
</tr>
<tr>
<td>Proxy configuration</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact Reset Level 2 (factory reset)</th>
<th>Erased or Reset</th>
<th>Preserved</th>
</tr>
</thead>
<tbody>
<tr>
<td>adm password</td>
<td>Nothing</td>
<td></td>
</tr>
<tr>
<td>TM-C Identification</td>
<td>User Web site</td>
<td></td>
</tr>
<tr>
<td>LAN IP address + mask</td>
<td>Internet access</td>
<td></td>
</tr>
<tr>
<td>Language settings</td>
<td>Modem/ WiFi settings</td>
<td></td>
</tr>
<tr>
<td>Talk2M config</td>
<td>Proxy configuration</td>
<td></td>
</tr>
</tbody>
</table>